1999 Meeting of the Society for Technology in Anesthesia

A Window to the 21st Century

January 20 - 23, 1999
San Diego, California

The Hotel Del Coronado

SAN DIEGO
STA
1999

Society for Technology in Anesthesia
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For information about STA and the STA 99 meeting
http://groucho.med.yale.edu/societies/sta

SOCIETY FOR TECHNOLOGY IN ANESTHESIA

STA 99

Window to the 21ˢᵗ Century

January 20-23, 1999
Hotel Del Coronado, San Diego

On behalf of the program committee and the Board of Directors, welcome to this year's STA meeting. It truly promises to be the *Window to the 21ˢᵗ Century* as we discuss new opportunities and prepare ourselves to be in the forefront of the development, design, and use of new technologies in anesthesia, education, computers, and information systems.

We would personally like to thank the outstanding faculty who have generously given their time to prepare and present their lectures, workshops, and demonstrations. More than 40 posters and software demonstrations will be presented, representing new and on-going research in our specialized field. *Please be sure to be ON TIME to all sessions, as the agendas are full and we want to take advantage of all our available time.*

Please take every opportunity to network with our exhibitors, faculty, and members during the meeting. This type of learning is important and beneficial to everyone. The social activities, tours and this year's METI Beach Party and Baxter Brunch are for all.

If you are interested in becoming more active in STA and its educational programs please contact one of the Board members. We welcome participation and involvement at all levels.

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SOCIETY FOR TECHNOLOGY IN ANESTHESIA

STA 99   JANUARY 20-23, 1999

Hotel Del Coronado, San Diego, California

WEDNESDAY, JANUARY 20, 1999

0800 - 1700	STA Board of Directors' meeting	**Garden Room**
1200 - 1730	Special Interest Group Meetings	**Story Salon E and F**
1800 - 2100	Registration	**Grande Hall Foyer**
1800 - 2100	Welcoming Reception	**Regent/Viceroy Hall**

THURSDAY, JANUARY 21, 1999

0700 - 1600	Registration desk open	**Grande Hall Foyer**
0700 - 1200	Exhibits open and poster displays	**Regent/Viceroy Hall**
0700 - 0800	Continental breakfast	**Regent/Viceroy Hall**
0800 - 0815	Opening Remarks	
0815 - 0945	**Session I - The Anesthesia Machine 2010**	**Empress Hall**

Dr. Jeff Feldman, Moderator
Mark Argentieri, North American Drager
Robert Tham, Datex Ohmeda

0945 - 1015   Break with exhibitors and poster authors   **Regent/Viceroy Hall**

1015 - 1145   **Session II – New Sensor Technology: Development and Application**
This session is made possible in part by an educational grant from Baxter
Dr. Richard Bartkowski, Moderator   **Empress Hall**
Dr. Thadeusz Drzewiecki: *New Sensors in Gas Monitor*
Dr. Jeffrey Joseph: *Biological Sensors: Implications for Anesthesia*
Dr. Gisbert Knishwitz: *Continuous Intramucosal pCO2 Monitoring to Detect Gastrointestinal Ischemia*

1200 - 1300   **The Baxter Brunch - all registrants and guests welcome-TICKETS REQUIRED**   **Sun Deck**

1300 - 1800   Field Trips
1800 - 2030   Simulator User Group Meetings & Dinners   **METI – Edison Complex**
MedSim Eagle – Palm
Sunset Room

BE SURE YOU HAVE SIGNED UP FOR A TOUR AND HAVE A TICKET

FRIDAY, JANUARY 22, 1999

0700 - 1600   Registration desk open   0700 - 1700 Exhibits open   0700 - 1200   Poster displays

0800 - 0945   **Session III - New Anesthetic Technologies**   **Empress Hall**
Dr. Dwayne Westenskow, Moderator
Les Mace: *New Technologies in Gas Monitoring*
Ron Isaac: *Medicine as a Business: The Due Diligence Process*

0945 - 1015   Break with Exhibitors and Poster displays   **Regent/Viceroy Hall**

1015 - 1130   **Session IV - Simulators and Virtual Reality**   **Empress Hall**
Dr. David Stern, Moderator
Dr. Mike Good: *Simulators: Past, Present & Future*
Dr. Bosseau Murray: *Virtual Reality: Past, Present & Future*

1145 - 1300   Luncheon and STA Business meeting

1300 - 1700   **Session Va - Workshops Each will be repeated 4 times as 55 minute sessions**
Dr. David Seitman, Workshop Coordinator
Salon E   a. Dr. Rita Patel: *Pregnant Patient Scenarios(Eagle Simulator)*
             Drs. Marie Baldisseri, Helene Finegold, Joanne Fletcher, Julie Tome
Salon F   b. Drs. Matt Kurrek and Herbert Kuhnigk: *Trauma Scenarios (Eagle Simulator)*
Salon G   c. Dr. Randy Steadman: *Difficult Airway Scenarios (METI Simulator)*
             Drs. Tom Nguyen, Rema Matevosian
Salon H   d. Dr. Sem Lampotang: *Virtual Reality and METI Simulator*
Babcock B   e. Dr. George Sheplock: *From Powerpoint to Virtual Reality*

1300 - 1700   **Session Vb - Internet Classes: Each session will be 55 min.**   **Empress Hall**
Dr. Keith Ruskin, Internet Class Coordinator
a. Beginner:
     Dr. Keith Ruskin: *Email and the WWW*
     Dr. Thomas Engel: *Finding Medical Resources*
     Dr. John Oyston: *How to Get Connected*
     Dr. Charlotte Bell: *What Kind of Computer do I Buy?*
b. Intermediate I:
     Dr. Eugene Worth: *Palmtop Computing for the Anesthesiologist*
c. Intermediate II:
     Dr. John Doyle: *Security on the Internet*
     Dr. Keith Ruskin: *Tips and Tricks of E-mail and the WWW*
     Dr. Rene Hagenouw: *Internet Literature Searches*
d. Advanced:
     Dr. Keith Ruskin: *New Internet Technology*
     Dr. Charlotte Bell: *The Internet as Mass Media*
     Dr. John Oyston: *Putting my Practice Online: Creating a WWW Page*

1400 - 1600   **Software Demonstrations (Submitted by abstract)**

1830   **THE METI BEACH PARTY**   **International Room**
         (tickets available at registration desk)

0730 - 1100	Registration desk open	**Grande Hall Foyer**
0730 - 1100	Exhibits and Software Demonstrations open	**Regent/Viceroy Hall**
0730 - 0830	Continental breakfast	**Regent/Viceroy Hall**

0830 - 0930   **Session VI - Keynote Address**   **Empress Hall**
Biological Weapons - How Real is the Threat
Captain J D. Malone, MD, Chair, Department of Internal Medicine,
     Naval Medical Center, San Diego

0930 - 1100   **Annual STA Debate: Are Standards Necessary in the 21st Century**
Dr. Julian Goldman, Moderator
Dr. Jan Ehrenwerth - For
George Hutchison - Against

1100 - 1130   **Winners of the Poster Submissions**
Dr. Jeff Feldman, Moderator

1130 - 1200   Course evaluation of scientific sessions

1200 - 1300   Lunch on your own

1230 - 1630   **Session V11a - Workshops**
Dr. David Seitman, Workshop Coordinator
Salon E   a. Dr. Rita Patel: *Pregnant Patient Scenarios(Eagle Simulator)*
       Drs. Marie Baldisseri, Helene Finegold, Joanne Fletcher, Julie Tome
Salon F   b. Drs. Matt Kurrek and Gerbert Kuhnigk: *Trauma Scenarios (Eagle Simulator)*
Salon G   c. Dr. Randy Steadman: *Difficult Airway Scenarios (METI Simulator)*
       Drs. Tom Nguyen, Rema Matevosian
Salon H   d. Dr. Sem Lampotang: *Virtual Reality and METI Simulator*

1230 - 1400   **Session V11b - Internet Classes**   **Empress Hall**
Dr. Keith Ruskin, Internet Class Coordinator
Dr. Keith Ruskin - *Surfing for Medical Knowledge*
Dr. Eugene Worth: *Making Data Useful*
Tay McClellan: *Copyright Issues on the Internet*

1300 - 2100   Family event and dinner outing

MARK YOUR CALENDARS NOW
STA 2000   January 12 - 15
Disney's Coronado Springs Resort
Orlando, Florida
Richard Bartkowski, Program Chair

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NOTICE OF DISCLOSURE

Many of STA's members and the faculty for this conference have relationships with businesses and corporations doing business in the field of anesthesiology and other topics to be discussed at this meeting. Each faculty has been asked to disclose any relationship prior to his/her presentation. If you perceive a bias or conflict of interest that has not been disclosed properly, please advise the conference chairman. Thank you.

STA 99
Program Committee

David Seitman, MD Chair
Richard Bartkowski, MD, Co-chair
Matthew Weinger, MD, Local Host
David Wong, MD, Software
Demonstration Chair
Jeff Feldman, MD, Scientific
Abstracts Chair
Doreen O'Hara, MD, Exhibit Chair

1999 STA Abstracts

Those abstracts identified as *poster* will be on display beginning Wednesday evening, January 20 and continuing through Friday noon. Those abstracts identified as *demonstration* are software demonstrations and will be available from Friday, January 22 at 1400 through Saturday, January 23 at 1200.

1 *Poster*	**Shekhter, Ilya** Rochester, NY	Enhancing a Patient Simulator to Respond to PEEP,PIP and other Ventilation Paramaters
2 *Poster*	**Yamamoto, Hirotoshi** Bunkyo, Tokyo Japan	Anesthestic Management with Computer-Assisted System for Total Intravenhous Anesthesia for Propofol
3 *Poster*	**Iwasi, Yoshinori** New Haven, CT	The Translation of Educational Software into a Japanese Environment
4 *Demonstration*	**Blazewicz, Perry** Redmond, WA	A Novel Fast Oxygen Sensor with On-Airway, Breath-to-Breath Capibility
5 *Poster*	**Murray, W. Bosseau** Hershey, PA	The Psychomotor Learning Curve with a Force Feedback Trainer: A Pilot Study
6 *Poster*	**Murray, W. Bosseau** Hershey, PA	Crisis Resoiurce Management Training: Using the Medical Education Technologies, Inc. Simulator: The First Year
7 *Demonstration*	**Drzewicki, Tadeucz** Rockville, MD	A Novel Inexpensive Respiratory and Anesthetic Gas Monitor
8 *Poster*	**Jaffee, Michael** Wallingford, CT	Performance of a New Rebreathing Valve for Non-Invasive Cardiac Output Estimation
9 *Poster*	**Lampotang, Samsun** Gainsville, FL	Synchronization of Chest X-ray Imaging with Peak Lung Inflation
10 *Poster*	**Westenskow, Dwayne** Salt Lake City, UT	Enhancing A Human Simulator with a Graphic Display of Physiology
11 *Poster*	**Westenskow, Dwayne** Salt Lake City, UT	Human Simulators Extend an Anesthesioloigy Department's Educational Role
12 *Poster*	**Orr, Joseph** Salt Lake City, UT	Clinical Validation of a New Non-Invasive Breath-to-Breath Fick Method for Cardiac Output Estimation
13 *Poster*	**Wallroth, Carl** Lubeck, Germany	Proposal for a Single Worldwide Anesthesia Workstation Standard
14 *Poster*	**Breen, Peter** Orange, CA	Effect of High VA/Q Lung Regions vs Alveolar Dead Space on Co2 Elimination: Development of a 5-Compartment Computer Lung Model
15 *Poster*	**Prichep, Leslie** New York, NY	Prediction of Level of Consciousness Using the Patient State Index Under Continuous or Inhalation Anesthesia

16 Poster	John, E. Roy NYC, NY	The Anatomical Substrate of Consciousness, Studied by Qyantittive EEG and Low Resolution Electrical Tomography
17 Poster	Bekker, Alex NYC, NY	A PC Based Graphical Simulator for Comparison of Hemodynamic Effects and Myocardial Energetics of Cardiotropic Drugs
18 Poster	Smith, Brian Palko Alto, CA	Fatigue Effects on Clinical Performance During Simulatede Intraoperative Events
19 Poster	Henrichs, Bernadette St. Louis, MO	Development of a Module for Teaching the Cricothyrotomy Provcedure
20 Poster	Loeb, Robert Tucson, AZ	Clinicians' Response to Management of the Gas Delivery System
21 Poster	Shelley, Kirk New Haven, CT	The Pulse Oximeter Wave Form Compared to the Laser Doppler Wave Form
22 Poster	Roy, Rob Albany, NY	Predicting Movement During Anesthesia by Complexity Analysis of the EEG
23 Poster	Smith, Brian Palo Alto, CA	Performance of the Pre-Anesthetic Equipment Checkout: A Simulator Study
24 Demonstration	Schwartz, Jeffrey New Haven, CT	Anesthesia Jeopardy: A Computerized Educational Tool
25 Demonstration	Gibby, Gordon Gainesville, FL	Secure Access to Electronic Medical Records with Patient
26 Demonstration	Epstein, Richard Philadelphia, PA	Software Application Development in the Department of Anesthesiology, Thomas Jefferson University Hospital
27 Poster	Steen, Stephen Los Angeles, CA	Residents' 4-Year Monthly Localization per ACGME Requirements on an Electronic Spreadsheet
28 Poster	Steen, Stephen Los Angeles, CA	Mini-Simi: A Human Patient Simulator
29 Demonstration	Parker, Brian Cleveland, OH	A Computerized Preoperative Assessment Program: Analysis of Utilization
30 Poster	Nierhaus, Axel Hamburg, GERMANY	Performance and Acceptance of a Patient Data Management System After Three Years of Experience
31 Poster	Kurrek, Matt Toronto Ontario, CANADA	Inter-rater Reliability Between Live-Scenarios and Video Recordings in a Realistic Simulator
32 Poster	Blike, George Lebanon, NH	Critical Care Domain Specifications: Distance Measurements From Eyes to Data Display
33 Poster	Blike, George Lebanon, NH	Impact of Data Display Format on Situation Awareness During Simulated Critical Events

34 *Poster*	**Haryadi, Dinesh** Salt Lake City, UT	Limited Reproductibility of Thermodilution Hampers Evaluation of New Cardiac Output Monitoring Devices
35 *Poster*	**Haryadi, Dinesh** Salt Lake City, UT	Clinical Evaluation of Partial CO_2 Rebreathing Fick Technique for Noninvasive Measurement of Cardiac Output
36 *Poster*	**Haryadi, Dinesh** Salt Lake City, UT	Influence of Error in Estimation of Intrapulmonary Shunt on the Measurement of Cardiac Output Using Rebreathing Techniques
37 *Poster*	**Roetman, Karon** Seattle, WA	Utilization of Telemedicine for Anesthesia Peioperative Evaluations in Remote Locations
38 *Poster*	**Engel, Thomas** Loma Linda, CA	Simulated Annealing for Optimization of the Operating Room Schedule
39 *Poster*	**Engel, Thomas** Loma Linda, CA	Numerical Integration Methods and Computer Simulation for Anesthesiology
40 *Demonstration*	**Harwood, Timothy** Winston Salem, NC	A Demonstration of an Interactive Computer-Based Tutorial for the Teaching of Anesthetic Care in Major Vascular Surgery
41 *Poster*	**Sanjo, Yoshimitsu** Hamamatsu, Shizuoka JAPAN	Physical Model for Anesthetic Wash-in and -out to Anesthethetic Circuit with CO_2 Absorbent
42 *Poster*	**Loeb, Butch** Tucson, AZ	Comparison of Non-Invasive, Partial Rebreathing Cardiac Output with Invasive Bolus and Continuous Thermodilution

AIMCare, Inc.
Booth 15

The AIMCare perioperative Enterprise is an innovative suite of information systems that combines the power of client–server net-working with sophisticated point-of-care software applications to manage the entire perioperative encounter.

ASPECT MEDICAL SYSTEMS, Inc.
Booth 2

The Aspect A-2000™ monitor with the Bispectral Index™ (BIS) provides a direct measure of the effects of anesthetics on the brain and consciousness. Clinical studies have shown positive outcomes from BIS monitoring including: reduced anesthetic drug usage, faster wake-up times and improved recovery for patients undergoing general anesthesia.

BAXTER
Booth 1

Baxter's Anesthesia/Pharmaceutical products business will feature the introduction of a revolutionary new patient warming device, Thero-STAT™ as well as our inhalation agent, Suprane™ (desflurane USP) and our entire anesthesia product portfolio.

DATEX-OHMEDA
Booth 13

Datex-Ohmeda is a leading manufacturer of patient monitors, anesthesia machines, ventilators, information management systems and supplies for anesthesia and critical care. the company is present in over 100 countries worldwide. Datex-Ohmeda's vision is to supply technology that provided an uninterrupted flow of information in anesthesia and critical care. Ease of use, flexibility and providing the solution that best fits each customer's needs will continue to be the company's overriding goals.

H & H SYSTEM, Inc.
Booth 14

H & H Systems, Inc, provides plastic trays and dividers for crash carts, code carts, anesthesia carts and any carts in the hospital. We also provide divider systems for drawers and shelving.

HEWLETT-PACKARD CO
Booth 10

Hewlett-Packard will exhibit the Viridia Component Monitoring System for anesthesia with new neurological and cardiac monitoring capabilities.

MARQUETTE MEDICAL SYSTEMS, Inc.
Booth 7

Marquette Medical Systems, Inc. is a leading manufacturer of medical electronic equipment and systems for point of care vital signs monitoring, respiratory and gas analysis systems, ventilator management, diagnostic cardiology and clinical information systems. For more information, visit www.mei.com.

MASIMO CORP.
Booth 18

Human Patient Simulator (HPS) physically represents the patient including clinical features and monitored parameters via the use of sophisticated psychological and pharmacological models.

MEDICAL EDUCATION TECHNOLOGIES, Inc.

Human Patient Simulator (HPS) physically represents the patient including clinical features and monitored parameters via the use of sophisticated psychological and pharmacological models.

MEDICAL PLASTICS LABORATORY, Inc. Booth 4

MPL manufactures and distributes a full line of anatomical reproductions and patient simulators to support your program's training criteria. MPL proudly introduces the Expert Difficult Airway Management Simulator, a lifelike simulator allowing comprehensive hands-on training in the entire spectrum of human airway management. With MPL, you TRAIN for LIFE!

MEDSIM-EAGLE   Booth 19

MedSim-Eagle Simulation provides the medical community with innovative ways of teaching clinical skills to healthcare professionals by utilizing the Eagle Patient Simulator and the UltraSim simulator. These high-fidelity systems develop and sharpen student's skills ranging from basic procedures to diagnosis and treatment of patient events to crisis resource management.

NORTH AMERICAN DRAGER   Booth 9

North American Drager is one of the world's leading manufacturers of integrated anesthesia systems, or information systems and ceiling service units.

NOVAMETRIX MEDICAL SYSTEMS Inc.   Booth 20

Novametrix is a leading designer, manufacturer and marketer of leading edge non-invasive respiratory monitoring products. the product lines included digital pulse oximetry, mainstream capnography, respiratory mechanics and transcutaneous monitors. The CO_2SMO Plus ™ provides continuous measurement of the CO_2 Production and Deadspace parameters directly at the bedside.

PARKER MEDICAL   Booth 16

Parker Medical will demonstrate three new products:
A revolutionary, flexible-tip endotracheal tube, designed to avoid trauma to the larynx and trachea; the Parker Intubation Guide, designed to guide endotracheal tubes easily, rapidly and safely through the glottis; the Parker videoendoscope, which allows intubation to be watched through the ET tube.

PHYSIO METRICS   Booth 3

The Physio Metrics PMI-210 multifunction oximeter introduces the PMI TFT (Time to frequency Transform) technology providing improved artifact rejection and low perfusion performance. The PMI-210 provides the clinician the advantages of a true digital signal processing (DSP) system for the determination of a patient's SPO_2, pulse rate and respiration rate from the plethysmographic finger sensor.

PICIS, Inc.   Booth 12

Picis develops, distributes and installs point of care information systems for the healthcare. Picis CareSuite 97 includes: Chart+ ™ , which uses patented technology to connect to medical devices and computing systems; QuickQuery ™ which automates query, analysis and report generation; and HospiAudit ™, a tool for quality assurance, cost-tracking and clinical research.

PRS   Booth 6

PRS is a complimentary booklet - Gas Microbubbles in Biology: Their relevance in Toxicology, Physiology and Anesthesia - which provides new information on mechanisms of anesthesia.

PULMONX, Inc.   Booth 5

Pulmonx develops, manufactures and markets direct visualizations airway management devices for difficult intubations. Pulmonx is commercially releasing the VETT in early 1999.

SIEMENS MEDICAL SYSTEM, Inc.   Booth 8

Come see the latest technology for the continuum of care at the Siemens booth. We are demonstrating our revolutionary new twist in anesthesia management.

SOMETEC   Booth 17

DYNEMO 3000™ is a non-invasive hemodynamic monitor which routinely provides anesthesiologist and intensivists with a real-time continuous evaluation of a patient's cardiovascular function. The proprietary technology is based on a patented novel transespphageal ultrasonic design combining anatomic landmarks echography and doppler signals with a powerful proprietary software for cardiac Output (CO) measurement..